1063616

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30606
Name: Murfin Drilling Co., Inc.
Address 1: 250 N WATER STE 300
Address 2:
City: WICHITA State: KS Zip: 67202 + 1216
Contact Person: Leon Rodak
Phone: (316) 267-3241
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Charlie Sturdavant
Purchaser:

Designate Type of Completion:
- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [ ] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:
- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

07/20/2011	08/01/2011	08/22/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-193-20806-00-00
Spot Description:
__ - E2 - NE - NE Sec. 27 Twp. 10 S. R. 34 [ ] East [x] West
660 Feet from [x] North / [ ] South Line of Section
330 Feet from [x] East / [ ] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[x] NE [ ] NW [ ] SE [ ] SW
County: Thomas
Lease Name: EPARD Well #: 1-27
Field Name:
Producing Formation: LKC & Marmaton
Elevation: Ground: 3183 Kelly Bushing: 3194
Total Depth: 4850 Plug Back Total Depth: 4811
Amount of Surface Pipe Set and Cemented at: 267 Feet
Multiple Stage Cementing Collar Used? [x] Yes [ ] No
If yes, show depth set: 2729 Feet
If Alternate II completion, cement circulated from: 2729
feet depth to: 0 w/ 350 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 27500 ppm Fluid volume: 5000 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. [ ] East [ ] West
County: Permit #:

AFFIDAVIT
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
- [x] **Letter of Confidentiality Received**
  Date: 09/19/2011
- [x] **Confidential Release Date:** 09/18/2013
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** NAOMI JAMES **Date:** 09/19/2011

Side Two

1063616

Operator Name: Murfin Drilling Co., Inc. Lease Name: EPARD Well #: 1-27

Sec. 27 Twp. 10 S. R. 34 ☐ East ☑ West County: Thomas

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:

Dual Induction
Dual Compensated
Microresistivity

☐ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
See Attachment		

CASING RECORD ☑ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.2500	8.6250	24	267	Common	345	3% cc, 2% gel
Production	7.8750	5.5000	15	4847	EA2	175	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	4307-4314 LKC I	250 gal 15% MCA, 750 gal 15% NEFE	
4	4352-4360 LKC K	250 gal 15% MCA, 750 gal 15% NEFE	
4	4569-4579 MYRICK STATION	750 gal 15% MCA	
		CIBP @ 4660'	
4	4664-4672 JOHNSON	250 gal 15% MCA	

TUBING RECORD: Size:	Set At:	Packer At:	Liner Run:
2 7/8	4595	NA	☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 08/26/2011

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	155		15		35

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)* ☐ Other *(Specify)*	4307-4579

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

Mark Sievers, Chairman
Ward Loyd, Commissioner
Thomas E. Wright, Commissioner

Sam Brownback, Governor

September 19, 2011

Leon Rodak
Murfin Drilling Co., Inc.
250 N WATER STE 300
WICHITA, KS 67202-1216

Re: ACO1
API 15-193-20806-00-00
Epard 1-27
NE/4 Sec.27-10S-34W
Thomas County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Leon Rodak

	MDCI Epard #1-27 660’ FNL 330’ FEL Sec. 27-T10S-R34W 3194’ KB						MDCI James #1-22 1100’ FNL 750’ FEL Sec. 22-T10S-R34W 3212’ KB	
Formation	Sample Top	Datum	Ref	Log Tops	Datum	Ref	Log Top	Datum
Anhydrite	2695	+499	+3	2695	+499	+3	2716	+496
B/Anhydrite	2716	+478	+10	2720	+474	+6	2744	+468
Topeka	3870	-676	-7	3856	-662	+7	3881	-669
Heebner	4074	-880	+6	4072	-878	+8	4098	-886
Lansing	4114	-920	+5	4112	-918	+7	4137	-925
Stark	4336	-1142	+6	4342	-1148	Flat	4360	-1148
Fort Scott	4595	-1401	+2	4586	-1392	+11	4615	-1403
Mississippi	4745	-1551	+37	4738	-1544	+44	4800	-1588
RTD	4850						4860	
LTD				4854			4860	

Scale 1:240 Imperial

Well Name: Epard # 1-27
Surface Location: 660' FNL, 330' FEL, Sec 27-T10S, R34W
Bottom Location:
API: 15-193-20806-00-00
License Number:
Spud Date: 7/20/2011 Time: 7:30 AM
Region: Thomas County
Drilling Completed: 8/1/2011 Time: 3:50 PM
Surface Coordinates:
Bottom Hole Coordinates:
Ground Elevation: 3183.00ft
K.B. Elevation: 3194.00ft
Logged Interval: 3750.00ft To: 4850.00ft
Total Depth: 4850.00ft
Formation: Marmaton
Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR

Company: Murfin Drilling Co., Inc
Address: 250 N. Water, Suite 300
Wichita, KS 67202

Contact Geologist: Dave Doyel
Contact Phone Nbr: 316-253-8693/316-631-3960
Well Name: Epard # 1-27
Location: 660' FNL, 330' FEL, Sec 27-T10S, R34W API: 15-193-20806-00-00
Pool: Field: Jimmy SE
State: Kansas Country: USA

LOGGED BY

Charlie Sturdavant Consulting

Company: Charlie Sturdavant Consulting
Address: 920 12th Street
Golden, CO 80401

Phone Nbr: 303-907-2295----303-384-9481
Logged By: Geologist Name: Charlie Sturdavant

NOTES

The Murfin Drilling Co., Inc., Epard # 1-27 well was drilled to a LTD of 4854', bottoming in the Mississippian. The geologist was on location and examining samples from 3750' to TD. Oil shows were noted in several zones in the Lansing Group, and in the Marmaton, Pawnee, Ft. Scott, and Johnson zone.

Drill stem tests were conducted in four zones of the Lansing, one in the Pawnee, and one in the Johnson. Oil was recovered on several of the tests.

Based on the favorable DST's and on log analysis, it was determined by all parties involved, that production casing should be run, and that the Pawnee and Lansing should be further tested through perforations.

The dry samples were saved and will be available for review at the Kansas Geological Survey well sample library, located in Wichita, Kansas.

Respectfully submitted,
Charlie Sturdavant
Consulting Geologist

Well Comparison Sheet

Charlie Sturdavant Consulting

WELL COMPARISON SHEET

	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	Murfin Drilling., Inc Epard #1-27				MDCI James #1-22				MDCI James A #2-22			
	660' FNL & 330' FEL				1100' FNL &750' FEL				1000' FNL & 1350' FWL			
	Sec. 27, T10S R34W				Sec. 22, T10S R34W				Sec. 22, T10S R34W			
	3194 KB				3212 KB		Structural Relationship		3224 KB		Structural Relationship	
Formation	Prognosis	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	2696	498	2694	500	2716	496	2	4				
Topeka	3870	-676	3856	-662	3881	-669	-7	7	3888	-664	-12	2
Queen Hill	4031	-837	4024	-830	4050	-838	1	8	4056	-832	-5	2
Heebner	4080	-886	4072	-878	4098	-886	0	8	4104	-880	-6	2
Toronto	4105	-911	4095	-901	4112	-900	-11	-1	4129	-905	-6	4
Lansing	4119	-925	4112	-918	4137	-925	0	7	4145	-921	-4	3
Muncie Creek	4251	-1057	4252	-1058	4276	-1064	7	6	4288	-1064	7	6
Stark Shale	4336	-1142	4340	-1146	4360	-1148	6	2	4373	-1149	7	3
Marmaton	4435	-1241	4432	-1238	4449	-1237	-4	-1	4462	-1238	-3	0
Pawnee	4541	-1347	4532	-1338	4560	-1348	1	10	4566	-1342	-5	4
Ft. Scott	4595	-1401	4581	-1387	4608	-1396	-5	9	4615	-1391	-10	4
Cherokee	4630	-1436	4617	-1423	4646	-1434	-2	11	4650	-1426	-10	3
Johnson Zone	4674	-1480	4666	-1472	4689	-1477	-3	5	4696	-1472	-8	0
Mississippian	4740	-1546	4740	-1546	4800	-1588	42	42	4770	-1546	0	0
Total Depth	4900	-1706	4850	-1656	4860	-1648	-58	-8	4842	-1618	-88	-38

Daily Drilling Report

Charlie Sturdavant Consulting

DAILY DRILLING REPORT

Company: Charlie Sturdavant Consulting
920 12th Street
Golden, CO 80401

Well: Epard #1-27
Location: 660' FNL & 330' FEL
Sec. 27 T10S R34W
Thomas County, KS

Murfin Drilling Co. Office: 316-858-8660
David Doyel 316-253-8693

Wellsite Geologist: Charlie Sturdavant
Cell: (303) 907-2295
Office: (303) 384-9481

Elevation: 3194' KB 3183' GL
Field: Wildcat
API No. : 15-193-20806-0000
Surface Casing: 8 5/8" set @ 254' KB

Drilling Contractor: Murfin Drilling Rig #2 785-443-2394, Tool Pusher: Jorge Tinoco, cell: 620-453-2000

DATE	7:00 AM DEPTH	REMARKS
7/20/2011	0 ft.	Spud the well at 0730 hrs.
7/21/2011	767 ft.	Drilling ahead.
7/22/2011	1006 ft.	Drilling ahead.
7/23/2011	2619 ft.	Drilling ahead.
7/24/2011	3500 ft.	Drilling ahead. Geologist on location @ 1800 hrs.
7/25/2011	4037 ft.	Drilling ahead.
7/26/2011	4170 ft.	Stuck drill pipe at 3887 ft. while short tripping in advance of DST #1
7/27/2011	4170 ft.	CTCH. Will commence drilling shortly. Conducted a successful DST #1 last night.
7/28/2011	4317 ft.	Drilling ahead. DST #2 4192'-4216 was wet.
7/29/2011	4370 ft.	CFS in Lansing K zone. Conducted a successful test of Lansing H, I, and J zones, recovering 469 ft. of total fluid, gocm and ocm.
7/30/2011	4538 ft.	Drilling ahead. Conducted a successful DST of the Lansing K zone yesterday, recovered 313' total fluid, mostly oil and gas and ocgm.
7/31/2011	4600 ft.	Tripping back in hole after a successful DST #5, recovering 1575' gassy oil and 2472' of gip.
8/1/2011	4703 ft.	Drilling ahead after testing the Johnson zone. Recovered 63' ocm & 20' muddy oil.
8/2/2011	4854 ft.	Coming out of the hole, laying down drill pipe, in preparation for running production casing. Completed logging operations last night at 0150 hrs. Geologist off location @ 0820 hrs.

CONTRACTOR

Contractor: Murfin Drilling Co., Inc
Rig #: 2
Rig Type: mud rotary
Spud Date: 7/20/2011 Time: 7:30 AM
TD Date: 8/1/2011 Time: 3:50 PM
Rig Release: Time:

ELEVATIONS

K.B. Elevation: 3194.00ft Ground Elevation: 3183.00ft
K.B. to Ground: 11.00ft

ROCK TYPES

Dolsec, Lmst fw<7, Lmst fw7>, shale, grn, Shgy, shale, gry, Carbon Sh, Shcol, Ss, Sltst

ACCESSORIES

MINERAL
Argillaceous
Calcareous
Chert White
Chert, dark
Chert, tripolitic
Dolomitic
Glauconite
Pyrite
Sandy

FOSSIL
Bioclastic or Fragmental
Bryozoa
Crinoids
Fossils < 20%
Fussilinid
Oolite
Oolites
Pellets
Sponge Spicules
Spicules

STRAT./SED. STRUCTS
Stylolite
Stylolites

STRINGER
Shale
green shale

TEXTURE
CX Cryptocrystalline
L Lithogr
MX Microxln

OTHER SYMBOLS

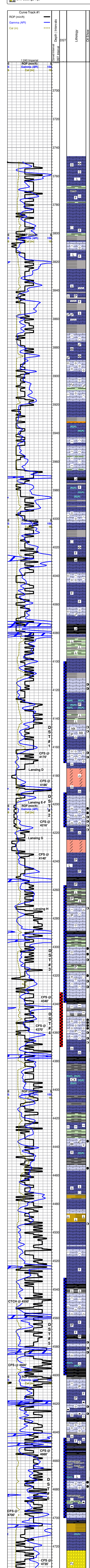
MISC
Daily Report
Digital Photo
Document
Folder
Link
Vertical Log File
Horizontal Log File
Core Log File
Drill Cuttings Rpt

DST
DST Int
DST alt

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)

Curve Track #1: ROP (min/ft), Gamma (API), Cal (in) | Depth | Intervals | Cored Interval | DST Interval | DST | Lithology | Oil Show | Geological Descriptions | TG, C1 - C5

1:240 Imperial



Murfin Drilling Company, Inc
#1-27 Epard
660' FNL & 330' FEL, Sec 27, T10S, R34W
Thomas County, Kansas
KB: 3194'

Drilling Contractor: Murfin Drilling Co, Inc., Rig #2
Tool pusher: Jorge Tinoco, cell #: 620-354-2000

Geologist: Charlie Sturdavant
Cell #: 303-907-2295

10' samples and drill time begin at 3750'. First samples are flooded with red shale cavings from above Permian section.

Limestone: mottled tan and gray and cream and tan, sli fossiliferous, fussulinids, sli arg., packstone to wackestone.

Ls as above w/ tr oolites, tight, no shows.

Limestone: cream, micrite w/ sparry patches (lithographic), hard and tight, tr of chalk.

Limestone: gray, tan, argillaceous to clean micrite, f- to crypto-xln., tight.

Limestone: cream to tan to lt gray, sli fossiliferous wackestone to mudstone. Some thin layers of light green-aqua shale. tight. Tr black, organic shale.

Limestone: cream and tan micrite, cream vf-xln, succrosic mudstone, to lt gray, wackestone,fossiliferous, crinoids. All are tight w/ no shows.

Limestone: cream to lt tan, micro-xln mudstone to hard, dense micrite. Tr gray, argillaceous, sli foss. wackestone, vf-xln. Tr aqua-green shale.

Limestone: lt tan, fossil debris, well-cemented grainstone.

Llimestone: cream, dense, lithographic micrite to sli fossiliferous, clean wackestone.

Shale: lt grayish-tan, waxy, soft, calc.,

Limestone: lt gray to lt tan, sli fossiliferous, wackestone, set in a f-xln matrix. fine pinpoint porosity, no shows.

Limestone: cream, lithographic, pyritic mudstone, stylolites, echiniod spines, tr aqua shale streaks, arg streaks.

Limestone: mixed types as noted above, w/ arg streaks, tr pellets, tr fossils, lt gray to tan, wackestone, no shows.

Tr lt gray, calc, lumpy shale. Limestone: cream, fossiliferous, fussulinids, echinoids, set in a f-xln to crypto-xln matrix, wackestone.

Topeka 3870 (-676)

Limestone: lt tan to cream, f-xln, fossil debris grainstone, to finely succrosic, non-fossiliferous, to peletal, fussulinid packstone.

Limestone: as above w/ tr aqua-green shale.

Limestone: lt tan, f-xln, succrosic w/ pinpoint porosity, non-fossiliferous. Tr well-cemented oolitic grainstone, no shows.

Limestone: lt tan, fossiliferous, bryozoans, fuss., pellets, tr oolites, tr glauconite, tr silty, aqua-green shale.

Limestone: cream to lt tan, fossil debris, tight, packstone, tr oolites, fair inter-xln porosity, no shows.

Limestone: cream micrite. Tr lt gray, siltstone speckled w/ black organic matter. Tr lt gray fossiliferous (brach, echiniods) grainstone.

Limestone: cream to lt tan, stylolitic, lithographic micrite.

Samples are still flooded with Permian red shales.

Limestone: cream to lt tan, fossiliferous grainstone to packstone, fir inter-xln por., Tr shale: aqua-green and lt grayish-tan, soft, calc.

King Hill Shale 3971 (-777)

Tr black carbonaceous shale.

Limestone gray to tan, fossiliferous, wackestone, weak inter-xln porosity, no shows.

Limestone: lt tan, vf-xln to micritic mudstone, stylolites, no shows, tight.

Limestone: lt tan, fossil debris, oolite-bearing grainstone, fair pinpoint porosity, no shows.

Limestone as above, tr siltstone and lt gray, soft shale.

Limestone: gray, arg., crinoidal, fussulinid-bearing wackestone w/ shale laminations, tr lt gray soft shale. No shows.

Limestone: cream, vf-xln to crypto-xln, mudstone, very few fossil frags., tight, no shows

Tr black shale **Queen Hill 4027 (-833)**

Samples to this point are flooded with red shales. Cut pump strokes from 64 to 60.

Limestone: tan, oolitic, bioclastic grainstone w/ fair inter-xln porosity, no shows.

Limestone: lt grayish-tan, vf-xln, tr foss., wackestone, micro-succrosic, no shows.

Limestone: lt tan, vf-xln/succrosic, tr foss., mostly mudstone, no shows.

Limestone: lt tan, oolitic, pelletal, fossiliferous, well-cemented packstone, no shows.

Heebner Shale 4074 (-880)

Shale: black, carbonaceous, dolomitic.

Limestone: lt brown, sli fossiliferous, sponge spicules, vf-xln matrix, wackestone.

Shale: lt grayish green to aqua green, calcareous.

Toronto 4098 (-904)

Morgan Mud, Mud check
4158' @ 1150 hrs.
7/25/2011
Vis. 57, Wt. 9.2
PV 17, YP 18
WL 7.6, Cake 2/32"
pH 11.5, Ca 10 ppm
CHL 6000 ppm
Sol 6.4, LCM 1
DMC: $2,813
CMC: $14,592

Lansing 4114 (-920)

Limestone: cream, f-xln, tr foss., fair pinpoint porosity, no aroma, but spotty black oil show in porosity, no fluor, but good streaming cut.

Limestone: cream to lt tan, tr lithographic, tr stylolites, dense, tight mudstone, crypto-xln., no shows.

Limestone as above, tr pyrite.

Shale: gray to med gray, to gray with dark green streaks, calcareous.

Prep to run DST #1 4100'-4170'. Pipe stuck at 3887' while short tripping.

Limestone: cream to lt tan, micro-xln, tr foss., pyrite, streaky porosity w/ spotty oil shows. Dull yellow fluor, but good streaming cut. Tr lt gray chert, mottled w/ dark spots.

Epard #1-27_DST#1.jpg

DST #1: 4100'-4170'.
Rec: 187' Water, 496' MCW (90% water, 10% mud), 124' WCM (50% mud, 50% water), 40' WCM w/ specks of oil (15% water, 85% mud).
IFP 60.20-170.44#
ISIP: 1236.5#
FFP: 181.68-381.25#
FSIP: 1203.96#

Limestone: lt tan to lt gray, oolitic, bioclastic grainstone w/ good secondary porosity that is filled with dark, live oil, yellow fluor, good instant streaming cut.

The first sample after returning to drilling is 95%+ cavings, but has a strong hydrocarbon aroma. One fragment of limestone was found with partial oil staining (only the porosity was stained) and good cut. Cavings!

Dolomite: tan, micro-xln mudstone with a well-developed secondary porosity, vugs, sparry calcite, druzy-lined vugs, possibly ghost ooltes(?). Mineral fluor, but no shows. Chert: lt gray, vitreous. Some frags have small, reddish-brown calcite inclusions.

Limestone: cream to lt tan, micrite w/ individual spar grains to 0.3mm. Chert: white to lt gray, spicular, fossiliferous, vitreous.

Morgan Mud, Mud chk. @ 4216', 7/27/11, Vis 55, Wt 9.0, PV 17, YP 18, WL 6.0, Cake 2/32, pH 11.0, Ca 10ppm, CHL 7800ppm, DMC $1351, CMC $15,943

Epard#1-27_DST#2.jpg

Limestone: cream to lt tan, diagenetically altered, ghost oolites, good secondary porosity, sparry patches have the most por., vf- to med-xln, hard to subchalky, no shows.

DST #2: 4192'-4216.
Rec: 1534' Water, 40' WCM (30% mud, 70% water)
IFP: 126.35-404.77#
ISIP: 1244.46#
FFP: 427.11-950.45#

60 min sample: Fair oil aroma in wet sample cup. Limestone: cream to lt tan, diagenetically altered, former fossiliferous grainstone to packstone, good secondary pinpoint porosity w/ spotty to sub-saturated, live oil staining, some broken vugs with druzzy calcite coating and oil staining, some inter-xln porosity w/ oil, yellow fluor, good cut. Chert: white to lt gray, opaque, vitreous, fossiliferous, oil stained in the qtz cores (the only porosity available in a chert).

Strap @ 4216' was 5.98' short to board.

Driller was 12' off bottom when CTCH before commencing to drill, so the first samples were all cavings.

Limestone as above w/ more mudstone matrix and pinpoint, secondary porosity. Spotty oil in the pinpoint por. Tr white, vuggy tripolitic chert (most is fresh and vitreous).

Dolomite to dolomitic limestone: cream, succrosic, f-xln, rhomb size to 0.2mm, good inter-xln porosity, tr vuggy por. No shows.

Limestone: cream, dense tight, lithographic micrite, tr pyrite, still carrying fragments w/ very, weak, spotty oil shows.

Still an abundance of red shale cavings that mask samples.

Vis 58, Wt. 9.0#

Muncie Creek 4251 (-1057)

Shale: black and dark gray with thin streaks of od green, calc.

Limestone: mottled cream and brown, fossiliferous, isolated oolites, pyritic, packstone, no porosity, no shows.

Tight connection at 4260'

Shale: gray, soft, and greenish gray pyritic, both are calc.

Limestone: Cream to lt tan to mottled, fossiliferous, tr oolites, packstone w/ very little porosity. Some fragments exhibit fine pinpoint, secondary porosity w/ weak spotty staining. The sample cup has strong hydrocarbon aroma. Mineral fluor masks the oil, but it cuts well. Chert: white to lt gray, opaque, vitreous, pyritic.

**Driller had to short trip for DST #3 due to tightness in hole.

Limestone: cream to tan, dense micrite to recrystallized, former grainstone, now micro-xln w/ little to no porosity. Tr of bioclastic packstone from above w/ good inter-xln por and weak, spotty oil show. Free rhombopora branch. Tr black shale.

DST #3: 4257'-4340'
Rec: 187' OCM (10% oil, 90% mud), 63' GOCM (5% gas, 25% oil, 70% mud), 63' GOCM (10% gas, 10% mud, 80% oil), 156' Gassy Oil (10% gas, 90% oil).
IFP: 29.37-118.57#
ISIP: 1278.59#
FFP: 128.77-205.99#
FSIP: 1238.69#

Shale: grayish-green to olive green, waxy, soft, calcareous.

Tr black carbonaceous shale.

Limestone: cream to lt tan, vf-xln, ghost fossils tr ooltes, recrystallized w/ poor pinpoint porosity to micro-vuggy. Spotty oil shows in the pinpoint porosity, saturated to spotty oil staining in the vyggy to med xln zones. Bright yellow fluor, excellent streaming cut. Moderate aroma in the wet sample cup.

Shale: gray to dark dull green, micaceous, organic lams, limey in places.

Limestone: cream, fossiliferous, crinoids, bryozoans, sponge spicules, ghost oolites, diagenetically altered from an original bioclastic/oolitic grainstone, f-xln, fair inter-xln porosity, no shows.

Morgan Mud Mud chk
4340' @ 0930 hrs 7/28/11
Vis 58, Wt 9.1, PV 18, YP 20, WL 7.2, Cake 2/32, pH 10.0, Ca 10ppm, CHL 9600ppm, Sol 5.7, LCM 0.5
DMC $985, CMC $16928

Epard#1-27_DST#3.jpg

Stark Shale 4336 (-1142)

Limestone: cream, dense with random streaks of fine porosity that have dark, live oil staining, micro-xln w/ micro vugs, weak dull yellow fluor, fair cut. Tr black shale.

Limestone: brown mottled w/ tan, fossiliferous packstone, sli arg., ghost fossils, tr fussulinids, tr sparry micrite. No shows. Tr black shale, tr gray shale.

Morgan Mud Mud chk
4370' @ 0930 hrs 7/29/11
Vis 53, Wt 9.1, PV 17, YP 17, WL 7.6, Cake 2/32, pH 10.0, Ca 10ppm, CHL 9400ppm, Sol 5.7, LCM 0.5
DMC $504, CMC $17432

Limestone: cream to lt tan, oolitic grainstone that has undergone some diagenetic alteration. Good to excellent inter-oolite porosity, inter-xln porosity in the cement between the oolites, good, live oil staining, bright yellow fluor, immediate streaming cut. The sample cup has a very strong hydrocarbon aroma. Gas bubbles emanate from the pores. The lower portion is a bioclastic grainstone, but tighter with fewer oil shows. Becomes a lithographic micrite near the bottom.

DST # 4: 4332'-4370'
Rec: 187' GHOCM (20% g, 40% oil, 40% m); 63' GMCO (20%g, 10%m, 70% oil); 63' GO (30%g, 70% oil); 189' GIP.
IFP: 35.67-100.87#
ISIP: 1157.50#
FFP: 117.62-124.32#
FSIP: 1157.74#

Limestone: cream, micrite, dense tight, some secondary pinpoint porosity with slight show of free, live oil. Specks of white, opaque, vitreous chert.

Epard#1-27_DST#4.jpg

Tr black, carbonaceous, sli calcareous shale.

Tr gray, calcareous shale, soft. Limestone: tan, mottled w/ gray specks, arg., sli fossil debris, f-xln, poor porosity, wackestone, NS.

Limestone: cream to lt tan, crypto-xln, sli. lithographic, stylolitic micrite, tight, no shows.

Limestone: white to cream to lt tan, micro- to crypto-xln, micrite to recrystallized, former packstone, weak inter-xln por., no shows. Shales: greenish-gray, gray calc., tr black shale. Tr arg ls w/ thin shale laminations.

Mixed shales: lt gray, gray, greenish-gray, green, black, tr arg ls

Limestone: brown, fossiliferous, fussulinids, arg, micro-xln matrix, wackestone.

Limestone: cream to lt tan, dense, crypto-xln micrite. Mixed shales as above.

Marmaton 4435 (-1241)

Limestone: tan to cream, fossiliferous, sponge spicules, fussulinids, broken fossils, pelletal, vf-xln, packstone, fair hydrocarbon aroma, one frag had secondary pinpoint and micro-vuggy porosity with live oil saturation, bright yellow fluor, and instant streaming cut. Still an overabundance of cavings!

Limestone: cream to tan, micro- to crypto-xln mudstone, stylolites. Chert: lt tan, opaque, vitreous, spicular, fossiliferous, vitreous. Tight, no shows.

The samples from 4440' to 4510' are flooded with Premian red bed cavings. I had the driller reduce the pump strokes from 58 to 56 per minute at 4510', in a attempt to clean up the samples. Result was that there were no sample returns. Went back to 58 strokes and add a tank of gell while CTCH for 1 hour at 4550'. The result is very few cuttings are being recovered. Try tilting the sample trap next.

Limestone: lt tan to cream, one fragment had good secondary porosity, oolitic grainstone, inter-xln to micro-vuggy porosity w/ oil saturation, good fluor and cut. The rest is cream micrite. Faint oil aroma in sample cup.

Limestone: white to tan, micro- to crypto-xln mudstone, tight, no shows. Tr aqua-green shale w/ pyrite.

Limestone: cream to tan, sli fossiliferous, crinoids, spicules, vf- to micro-xln matrix, wackestone, weak inter-xln porosity in sparry patches, no shows.

Shale, brown, fissile, calc.

Limestone: mottled tan and brown, brown patches were fossils, crin., spicules, oolites, fossil debris, all recrystallized w/ f-xln, intergranular porosity, packstone to wackestone. No shows.

Brown, limey shale.

Limestone: brown to mottled brown and tan, f- to vf-xln, tr foss., patches of sparry calcite, tr pyrite, wackestone. A few fragments of f-xln, sub-succrosic ls w/ pinpoint porosity and slight spotty oil show, good fluor, but week cut (cavings?).

Limestone: brown to tan and brown mottled, bioclastic packstone to mud-supported wackestone to non-fossiliferous mudstone, no shows.

Limestone: mottled tan and brown, tr fossiliferous wackestone to crypto-xln micrite.

Note: the flood of red shale cavings made sample examination difficult.

Shale: black, carbonaceous.

Pawnee 4543 (-1349)

Morgan Mud Mud chk
4568' @ 0945 hrs 7/30/11
Vis 56, Wt 9.1, PV 16, YP 21,WL 7.6, Cake 2/32, pH 11.0, Ca 10ppm, CHL: 10,900ppm, Sol 5.7, LCM: 1.0 DMC $1,697, CMC $19,129

Limestone: tan, fossil debris set in a vf-xln matrix, packstone to wackestone, weak inter-xln porosity, no shows.

Limestone: as above w/ fussulinids, spicules, oolites. Tr opaque chert: lt gray, dark gray white, vitreous. F-xln w/ poor inter-xln por.

Limestone: mottled cream with tan and gray spots, tr pyrite, f-xln, weak porosity, no shows.

Epard#1-27_DST#5.jpg

DST # 5: 4532'-4600'
Rec: 187' OCM (10% o, 90% m); 1575' GO (30% gas, 70% oil); 2472' GIP.
IFP: 127.88-233.83#
ISIP: 1004.42#
FFP: 267.33-583.90#
FSIP: 966.91#

Black shale, carbonaceous, pyritic, non-calc.

Limestone: tan, micrite with secondary micro-vuggy and pinpoint porosity w/ oil staining in the pores, bright yellow fluor, excellent cut. Fair hydrocarbon aroma in sample cup. Thin shale laminations on some frags. Aqua-green shale. Tr gray and white, opaque, vitreous chert.

Limestone: cream to lt tan, crypto-xln, stylolitic micrite. No shows.

Increased the mud weight to get better sample returns. Vis.: 62cp, Wt.: 9.1

Ft. Scott 4595 (-1401)

Black, carbonaceous shale, non-calcareous.

Limestone: lt grayish-tan, fossil debris set in a vf- to micro-xln matrix, packstone, tight, no shows. Also brown micrite. Tr pyrite. Some frags have thin, lt gray shale laminations.

Morgan Mud Mud chk
4609' @ 0910 hrs 7/31/11
Vis 72, Wt 9.0, PV 19, YP 24, WL 7.2, Cake 2/32, pH 11.5, Ca 10ppm, CHL: 9,800ppm, Sol 5.0, LCM: 1.0 DMC $579, CMC $19,708

Limestone: tan to brown, some frags are mottled, sli fossiliferous (brach) to non-foss., pyrite, micro- to crypto-xln matrix, wackestone to mudstone, tight, no shows.

Limestone: tan, gray, and brown, mottled, ooiltic, foss frag, f-xln grainstone, separated by brown micrite layers. Mostly tight, but w/ some secondary pinpoint and micro-vuggy porosity and oil staining. Dull yellow fluopr, slow cut. Tr gray to blk, opaque, vitreous chert.

Cherokee 4630 (-1436)

Shale: black, carbonaceous

Sample quality has greatly improved with higher vis mud.

Limestone: Lt brown oolitic grainstone w/ poor to good inter-xln por in the cement, no shows. Most is well-cemented.

Limestone: tan, tr oolites, tr,fossils, micro- to crypto-xln matrix, wackestone, w/ white to lt gray to tan, opaque to translucent, vitreous chert. No porosity, no shows.

Limestone: tan, gray, and brown, mottled, ooiltic, foss frag, f-xln grainstone, separated by brown micrite layers. Mostly tight, but w/ some secondary pinpoint and micro-vuggy porosity and oil staining. Dull yellow fluor, slow cut. Tr gray to blk, opaque, vitreous chert.

Mixed dark gray to black shales with interbedded gray mottled, arg limestone.

Limestone: cream to tan to brown, sli fossiliferous, f- to crypto-xln matrix, wackestone, tight, no shows.

Limestone as above w/ lithographic, stylolitic micrite and shale laminations. No shows.

Epard#1-27_DST#6.jpg

Johnson Zone 4674 (-1480)

Limestone: lt tan to lt brown, oolitic, bioclastic grainstone w/ goood secondary, micro-vuggy porosity that is saturated with live, brown, free oil, dull yellow fluor, and instant streaming cut. Some micrite w/ secondary, pinpoint porosity and staining. Weak odor in sample cup. Some gray shale laminations.

DST #6: 4644'-4700'
Rec: 63' OCM (30% oil, 70% mud); 20' MO (30% mud, 70% oil).
IFP: 21.18-29.01#
ISIP: 1021.54#
FFP: 36.47-49.70#
FSIP: 934.45#

Layers of brown, crinoidal, arg limestone. Tr chert: tan to black, crinoidal, vitreous. Mixed with brown to tan bioclastic, brach, packstone to wackestone. Greenish-gray, pyritic shale, black shale.

Black, carbonaceous shale.

Circulated samples have ls fragments with micro-vuggy porosity and spotty oil staining.

Shale: mixed, black, fissile and carbonaceous, yellow ochre to olive to lt brown, greenish-gray, chunky.

Limestone: cream to lt tan, micro- to crypto-xln mudstone, no porosity, no shows. Tr sparry calcite, tr stylolites.

Limestone: white to vy lt gray, clean, micro-xln, patches of sparry calcite, sub-chalky, mudstone, weak porosity restricted to spar, NS

Morgan Mud Mud chk
4743' @ 0920 hrs 8/01/11
Vis 71, Wt 9.1, PV 18, YP 24, WL 7.6, Cake 2/32, pH 10.5, Ca 10ppm, CHL: 9,800ppm, Sol 5.7, LCM: 1.5 DMC $1826, CMC $21,534

Sandstone: white, f-gr (ranges from vf-gr to med-gr), silica cement, specks of glauconite, tr black grains (mafic mineral, not magnetite), sub-angular to sub-rounded grains, quartz arenite. No shows. Some frags have thin, dark gray shale laminations. Pyritic ss in the shaley zones.

Mississippian 4740 (-1546)

Limestone: lt tan, oolitic grainstone, arenaceous (well-rounded, f- to med-gr qtz sand grains). Tight, no shows. Tr clear chert.

Many fragments of a colonial cerioid coelentrate were observed, possibly **lithostrotionella**.

Limestone: as above. Some frags are more arenaceous than oolitic. Lt brown to tan lithographic, stylolitic micrite.

Limestone: tan, crypto-xln, lithographic micrite, tr pyrite, no shows.

Limestone: tan, arenaceous, sli oolitic, f-xln, weak porosity, no shows. Also micrite as above.

Limestone: lt tan, arenaceous, sli ooiltic, f-xln, tr orange, translucent, vitreous chert. No shows.

Limestone: lt tan, ooilitic, arenaceous grainstoneweak inter-xln porosity, no shows.

Limestone: mixed tan to lt brown oolitic arenaceous grainstone and brown to lt brown micrite.

Rotary TD 4850' @ 1550 hrs, 8/01/2011
LogTech, Inc. Logging TD 4854'
Completed logging operations @ 0150 hrs.

Geologist: Charlie Sturdavant off location @ 0820 hrs., 8/2/2011

Epard #1-27_DST#1.jpg

DRILL STEM TEST REPORT

Trilobite Testing, Inc

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita Ks. 67202
ATTN: Charlie Sturdavant

Epard #1-27
27 10s 34w Thomas Ks
Job Ticket: 43721 **DST#: 1**
Test Start: 2011.07.26 @ 18:05:00

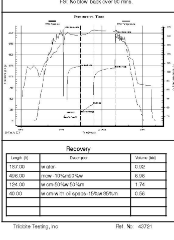
GENERAL INFORMATION:

Formation: LKC
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:09:00
Time Test Ended: 04:02:00
Interval: 4100.00 ft (KB) To 4170.00 ft (KB) (TVD)
Total Depth: 4170.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 Inside
Press@RunDepth: 381.25 psig @ 4101.00 ft (KB)
Start Date: 2011.07.26 End Date: 2011.07.27
Start Time: 18:05:05 End Time: 04:02:00
Capacity: 8000.00 psig
Last Calib.: 2011.07.27
Time On Btm: 2011.07.26 @ 21:07:30
Time Off Btm: 2011.07.27 @ 01:00:30

TEST COMMENT: IF: Strong blow , Built to B.O.B in 13 mins.
ISI: No blow back over 60 mins.
FF: Strong blow , Built to B.O.B in 15 mins.
FSI: No blow back over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2064.45	115.94	Initial Hydro-static
2	60.20	115.44	Open To Flow (1)
17	170.44	121.78	Shut-In(1)
77	1236.50	120.59	End Shut-In(1)
78	181.68	120.54	Open To Flow (2)
134	381.25	123.25	Shut-In(2)
231	1203.96	122.83	End Shut-In(2)
233	1955.28	123.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	water-	0.92
496.00	mcw-10%m90%w	6.96
124.00	wcm-50%w50%m	1.74
40.00	wcm-with oil specs-15%w85%m	0.56

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc Ref. No: 43721 Printed: 2011.07.27 @ 08:19:58 Page 1

Epard#1-27_DST#2.jpg

DRILL STEM TEST REPORT

Trilobite Testing, Inc

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita Ks. 67202
ATTN: Charlie Sturdavant

Epard #1-27
27 10s 34w Thomas Ks
Job Ticket: 43722 **DST#: 2**
Test Start: 2011.07.27 @ 12:25:00

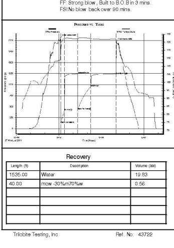
GENERAL INFORMATION:

Formation: LKC-E,F
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:08:00
Time Test Ended: 21:51:30
Interval: 4192.00 ft (KB) To 4216.00 ft (KB) (TVD)
Total Depth: 4170.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 Inside
Press@RunDepth: 950.45 psig @ 4193.00 ft (KB)
Start Date: 2011.07.27 End Date: 2011.07.27
Start Time: 12:25:05 End Time: 21:51:30
Capacity: 8000.00 psig
Last Calib.: 2011.07.27
Time On Btm: 2011.07.27 @ 15:06:30
Time Off Btm: 2011.07.27 @ 19:03:30

TEST COMMENT: IF: Strong Blow , Built to B.O.B in 2 mins.
ISI: No blow back over 60 mins.
FF: Strong blow , Built to B.O.B in 3 mins.
FSI:No blow back over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2059.57	114.33	Initial Hydro-static
2	126.35	120.08	Open To Flow (1)
17	404.77	127.31	Shut-In(1)
73	1244.76	127.17	End Shut-In(1)
73	427.11	126.74	Open To Flow (2)
129	950.45	127.45	Shut-In(2)
236	1228.83	126.94	End Shut-In(2)
237	1971.45	124.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1535.00	Water	19.83
40.00	mcw-30%m70%w	0.56

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc Ref. No: 43722 Printed: 2011.07.28 @ 08:21:17 Page 1

Epard#1-27_DST#3.jpg

DRILL STEM TEST REPORT

Trilobite Testing, Inc

Murfin Drilling Co.
250 N. Water Ste. 300
Wichita Ks. 67202
ATTN: Charlie Sturdavant

Epard #1-27
27 10s 34w Thomas Ks
Job Ticket: 43723 **DST#: 3**
Test Start: 2011.07.28 @ 14:00:00

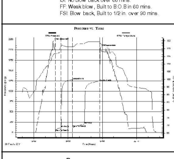
GENERAL INFORMATION:

Formation: LKC-H,I,J
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:53:30
Time Test Ended: 01:42:30
Interval: 4257.00 ft (KB) To 4340.00 ft (KB) (TVD)
Total Depth: 4340.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 Inside
Press@RunDepth: 205.99 psig @ 4258.00 ft (KB)
Start Date: 2011.07.28 End Date: 2011.07.29
Start Time: 14:00:05 End Time: 01:42:30
Capacity: 8000.00 psig
Last Calib.: 2011.07.29
Time On Btm: 2011.07.28 @ 16:40:00
Time Off Btm: 2011.07.28 @ 20:48:00

TEST COMMENT: IF: Fair blow , Built to B.O.B in 29 mins.
ISI: No blow back over 60 mins.
FF: Weak blow , Built to B.O.B in 60 mins.
FSI: Blow back, Built to 1/2 in. over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.97	115.22	Initial Hydro-static
14	29.37	116.77	Open To Flow (1)
44	118.57	121.57	Shut-In(1)
103	1278.59	121.24	End Shut-In(1)
104	128.77	120.95	Open To Flow (2)
165	205.99	123.33	Shut-In(2)
246	1238.69	124.40	End Shut-In(2)
248	2037.53	123.17	Final Hydro-static

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43721 **DST#: 1**

Test Start: 2011.07.26 @ 18:05:00

GENERAL INFORMATION:

Formation: **LKC**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:09:00
Time Test Ended: 04:02:00

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4100.00 ft (KB) To 4170.00 ft (KB) (TVD)
Total Depth: 4170.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

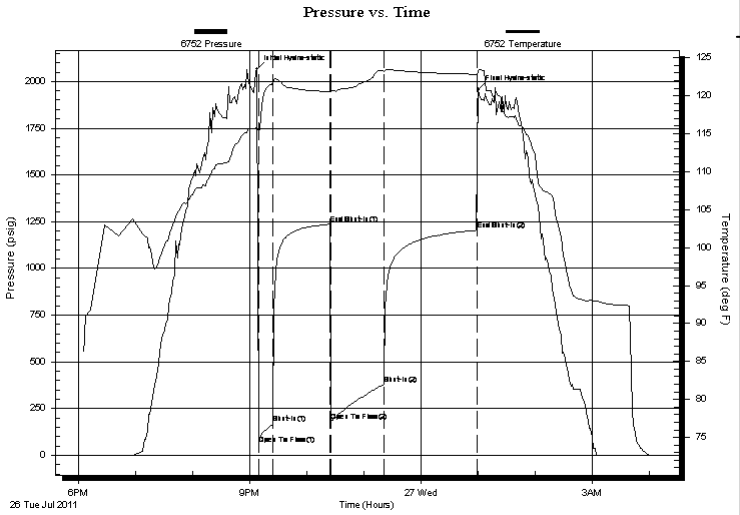
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 381.25 psig @ 4101.00 ft (KB)
Start Date: 2011.07.26 End Date: 2011.07.27
Start Time: 18:05:05 End Time: 04:02:00

Capacity: 8000.00 psig
Last Calib.: 2011.07.27
Time On Btm: 2011.07.26 @ 21:07:30
Time Off Btm: 2011.07.27 @ 01:00:30

TEST COMMENT:
IF: Strong blow , Built to B.O.B in 13 mins.
ISI: No blow back over 60 mins.
FF: Strong blow , Built to B.O.B in 15 mins.
FSI: No blow back over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2064.45	115.94	Initial Hydro-static
2	60.20	115.44	Open To Flow (1)
17	170.44	121.78	Shut-In(1)
77	1236.50	120.59	End Shut-In(1)
78	181.68	120.54	Open To Flow (2)
134	381.25	123.25	Shut-In(2)
231	1203.96	122.83	End Shut-In(2)
233	1955.28	123.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	w ater-	0.92
496.00	mcw -10%m90%w	6.96
124.00	w cm-50%w 50%m	1.74
40.00	w cm-w ith oil specs-15%w 85%m	0.56

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43721 **DST#: 1**

Test Start: 2011.07.26 @ 18:05:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	76.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	7000.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

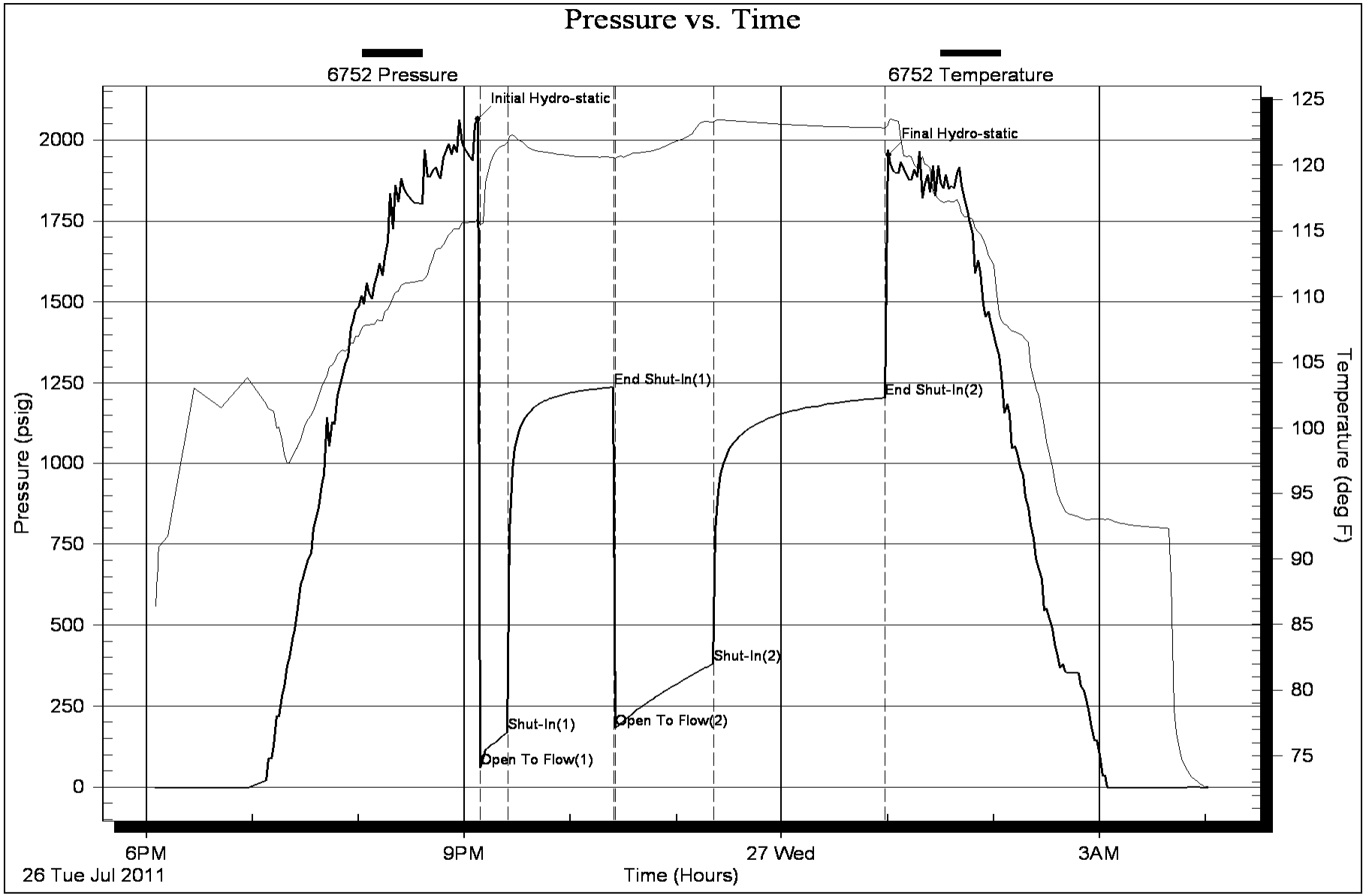
Length ft	Description	Volume bbl
187.00	w ater-	0.920
496.00	mcw -10%m90%w	6.958
124.00	w cm-50%w 50%m	1.739
40.00	w cm-w ith oil specs-15%w 85%m	0.561

Total Length: 847.00 ft Total Volume: 10.178 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Shut-In(2)
Open To Flow(1)
Open To Flow(2)
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
125
120
115
110
105
100
95
90
85
80
75
6PM
9PM
27 Wed
3AM
26 Tue Jul 2011
Time (Hours)

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43722 **DST#: 2**

Test Start: 2011.07.27 @ 12:25:00

GENERAL INFORMATION:

Formation: **LKC-E,F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:08:00
Time Test Ended: 21:51:30

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4192.00 ft (KB) To 4216.00 ft (KB) (TVD)
Total Depth: 4170.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

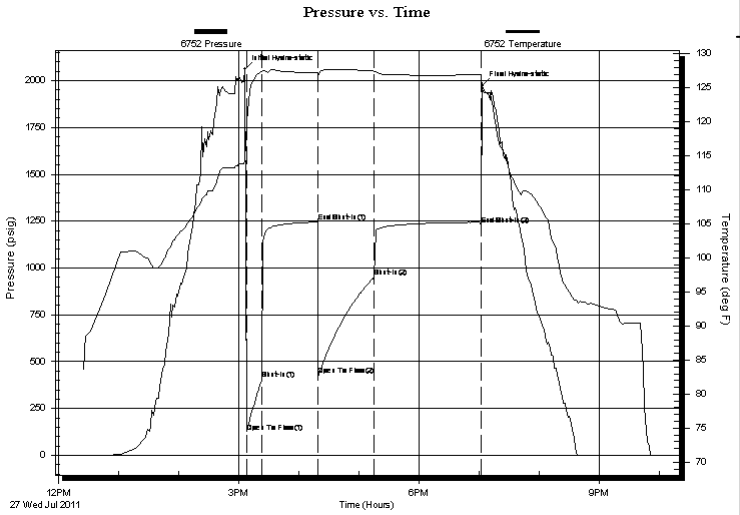
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 950.45 psig @ 4193.00 ft (KB)
Start Date: 2011.07.27 End Date: 2011.07.27
Start Time: 12:25:05 End Time: 21:51:30

Capacity: 8000.00 psig
Last Calib.: 2011.07.27
Time On Btm: 2011.07.27 @ 15:06:30
Time Off Btm: 2011.07.27 @ 19:03:30

TEST COMMENT: IF: Strong Blow , Built to B.O.B in 2 mins.
ISI: No blow back over 60 mins.
FF: Strong blow , Built to B.O.B in 3 mins.
FSI:No blow back over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2059.57	114.33	Initial Hydro-static
2	126.35	120.08	Open To Flow (1)
17	404.77	127.31	Shut-In(1)
73	1244.76	127.17	End Shut-In(1)
73	427.11	126.74	Open To Flow (2)
129	950.45	127.45	Shut-In(2)
236	1228.83	126.94	End Shut-In(2)
237	1971.45	124.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1535.00	Water	19.83
40.00	mcw -30%m70%w	0.56

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43722 **DST#: 2**

Test Start: 2011.07.27 @ 12:25:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.00 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	7800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

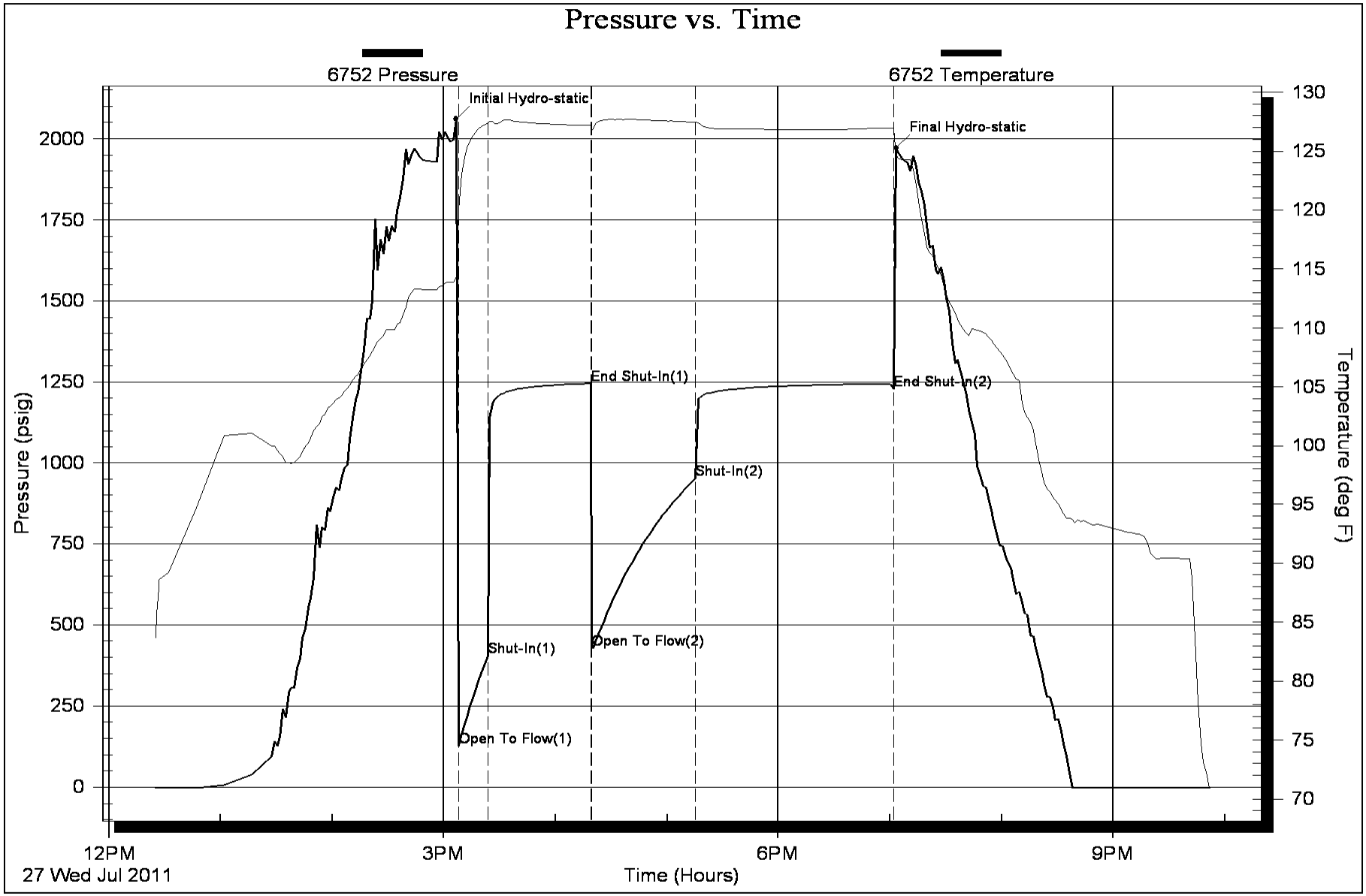
Length ft	Description	Volume bbl
1535.00	Water	19.829
40.00	mcw -30%m70%w	0.561

Total Length: 1575.00 ft Total Volume: 20.390 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(2)
Shut-In(1)
Open To Flow(2)
Open To Flow(1)
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
130
125
120
115
110
105
100
95
90
85
80
75
70
12PM
27 Wed Jul 2011
3PM
6PM
9PM
Time (Hours)

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43723 **DST#: 3**

Test Start: 2011.07.28 @ 14:00:00

GENERAL INFORMATION:

Formation: **LKC-H,I,J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:53:30
Time Test Ended: 01:42:30

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4257.00 ft (KB) To 4340.00 ft (KB) (TVD)
Total Depth: 4340.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

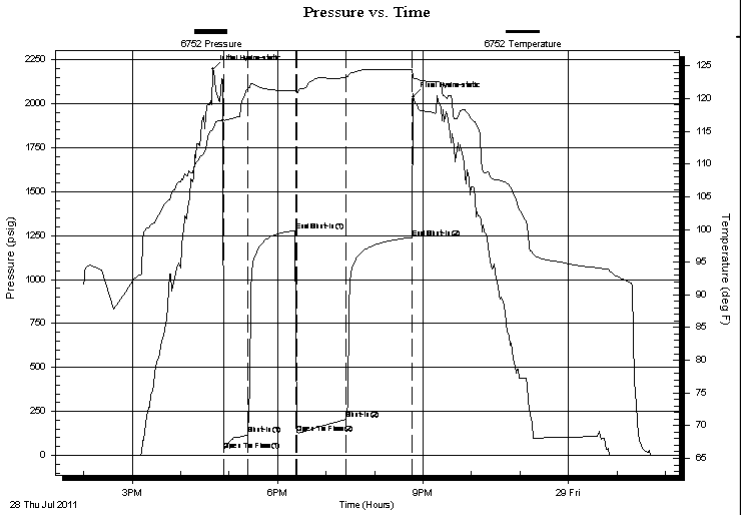
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 205.99 psig @ 4258.00 ft (KB)
Start Date: 2011.07.28 End Date: 2011.07.29
Start Time: 14:00:05 End Time: 01:42:30

Capacity: 8000.00 psig
Last Calib.: 2011.07.29
Time On Btm: 2011.07.28 @ 16:40:00
Time Off Btm: 2011.07.28 @ 20:48:00

TEST COMMENT:
IF: Fair blow , Built to B.O.B in 29 mins.
ISI: No blow back over 60 mins.
FF: Weak blow , Built to B.O.B in 60 mins.
FSI: Blow back, Built to 1/2 in. over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.97	115.22	Initial Hydro-static
14	29.37	116.77	Open To Flow (1)
44	118.57	121.57	Shut-In(1)
103	1278.59	121.24	End Shut-In(1)
104	128.77	120.95	Open To Flow (2)
165	205.99	123.33	Shut-In(2)
246	1238.69	124.40	End Shut-In(2)
248	2037.53	123.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	ocm-10%o90%m	0.92
63.00	gocm-5%g25%o70%m	0.88
63.00	gmco-10%g10%m80%o	0.88
156.00	go-10%g90%o	2.19
0.00	20ft. gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43723 **DST#: 3**

Test Start: 2011.07.28 @ 14:00:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.00 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	7800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

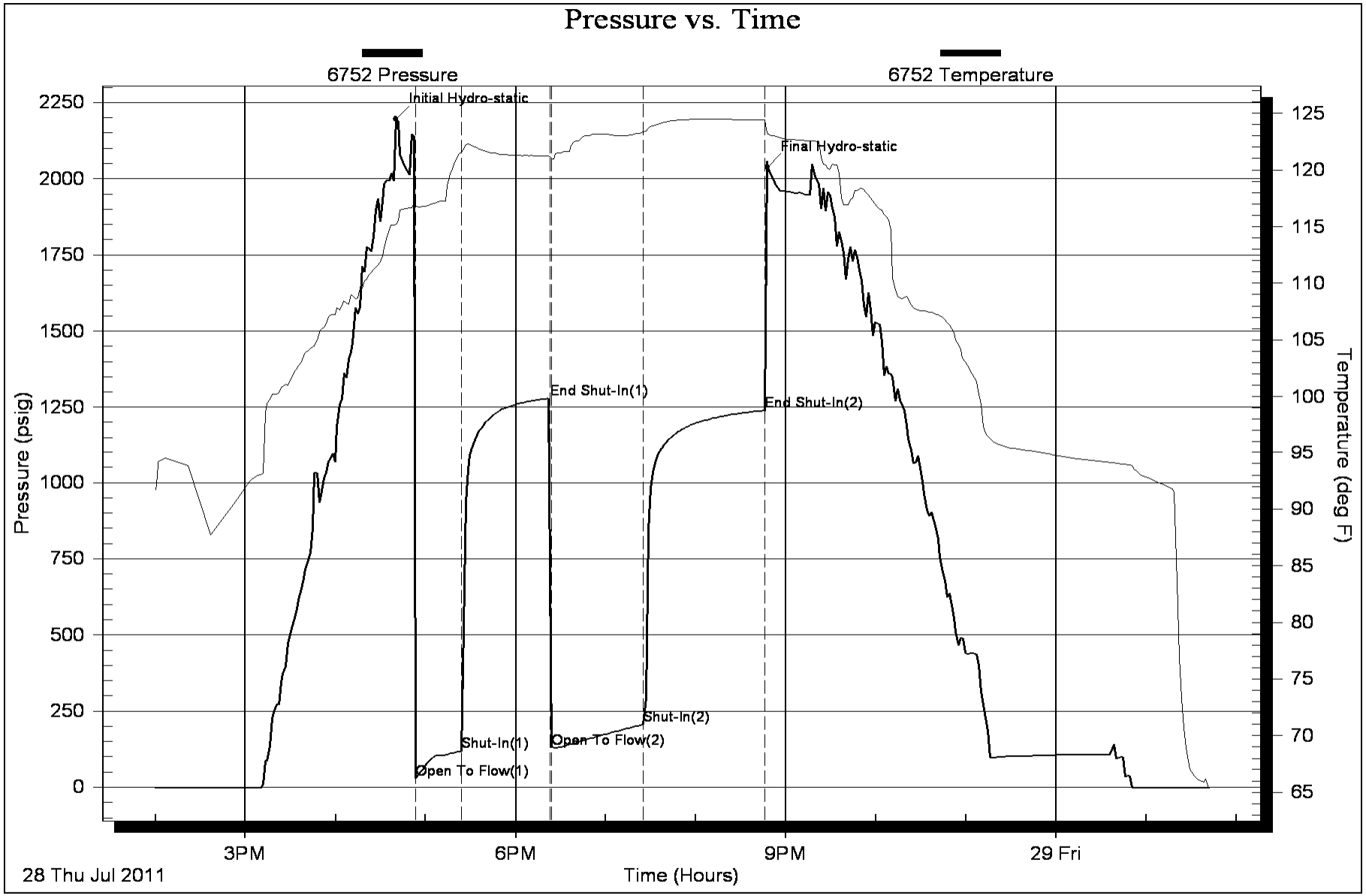
Length ft	Description	Volume bbl
187.00	ocm-10%o90%m	0.920
63.00	gocm-5%g25%o70%m	0.884
63.00	gmco-10%g10%m80%o	0.884
156.00	go-10%g90%o	2.188
0.00	20ft. gas in pipe	0.000

Total Length: 469.00 ft Total Volume: 4.876 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Shut-In(2)
Open To Flow(1)
Open To Flow(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
0
125
120
115
110
105
100
95
90
85
80
75
70
65
3PM
6PM
9PM
29 Fri
28 Thu Jul 2011
Time (Hours)

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43724 **DST#: 4**

Test Start: 2011.07.29 @ 10:00:00

GENERAL INFORMATION:

Formation: **LKC-K,I**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:20:30
Time Test Ended: 17:50:30

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4332.00 ft (KB) To 4370.00 ft (KB) (TVD)
Total Depth: 4370.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

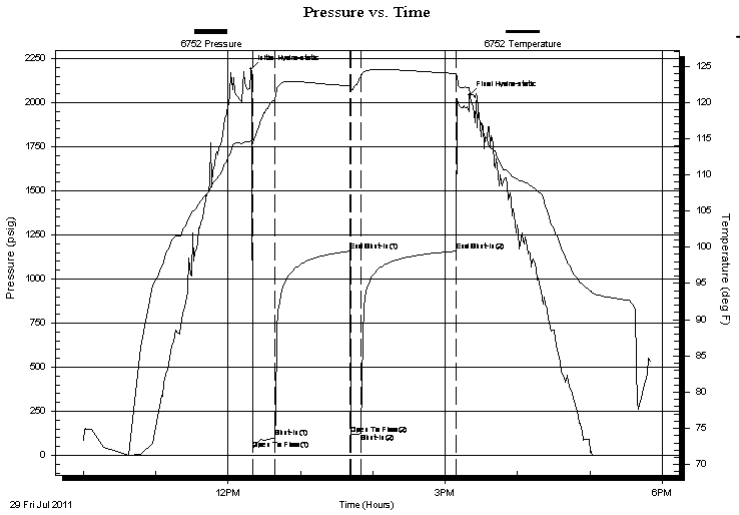
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 124.32 psig @ 4333.00 ft (KB)
Start Date: 2011.07.29 End Date: 2011.07.29
Start Time: 10:00:05 End Time: 17:50:29

Capacity: 8000.00 psig
Last Calib.: 2011.07.29
Time On Btm: 2011.07.29 @ 12:19:00
Time Off Btm: 2011.07.29 @ 15:20:00

TEST COMMENT:
IF: Strong blow , Built to B.O.B in 9 mins.
ISI: Blow back, Built to 5 in. over 60 mins.
FF: Strong blow , Built to B.O.B in 13 mins.
FSI: Blow back, Built to 7 in. over 60 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2188.02	114.67	Initial Hydro-static
2	35.67	114.31	Open To Flow (1)
20	100.87	120.41	Shut-In(1)
82	1157.50	122.27	End Shut-In(1)
83	117.62	121.74	Open To Flow (2)
91	124.32	123.53	Shut-In(2)
170	1157.74	123.98	End Shut-In(2)
181	2041.40	121.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	ghocm-20%g40%o40%m	0.92
63.00	gmco-20%g10%m70%o	0.88
63.00	go-30%g70%o	0.88
0.00	189 ft. gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43724 **DST#: 4**

Test Start: 2011.07.29 @ 10:00:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	9400.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

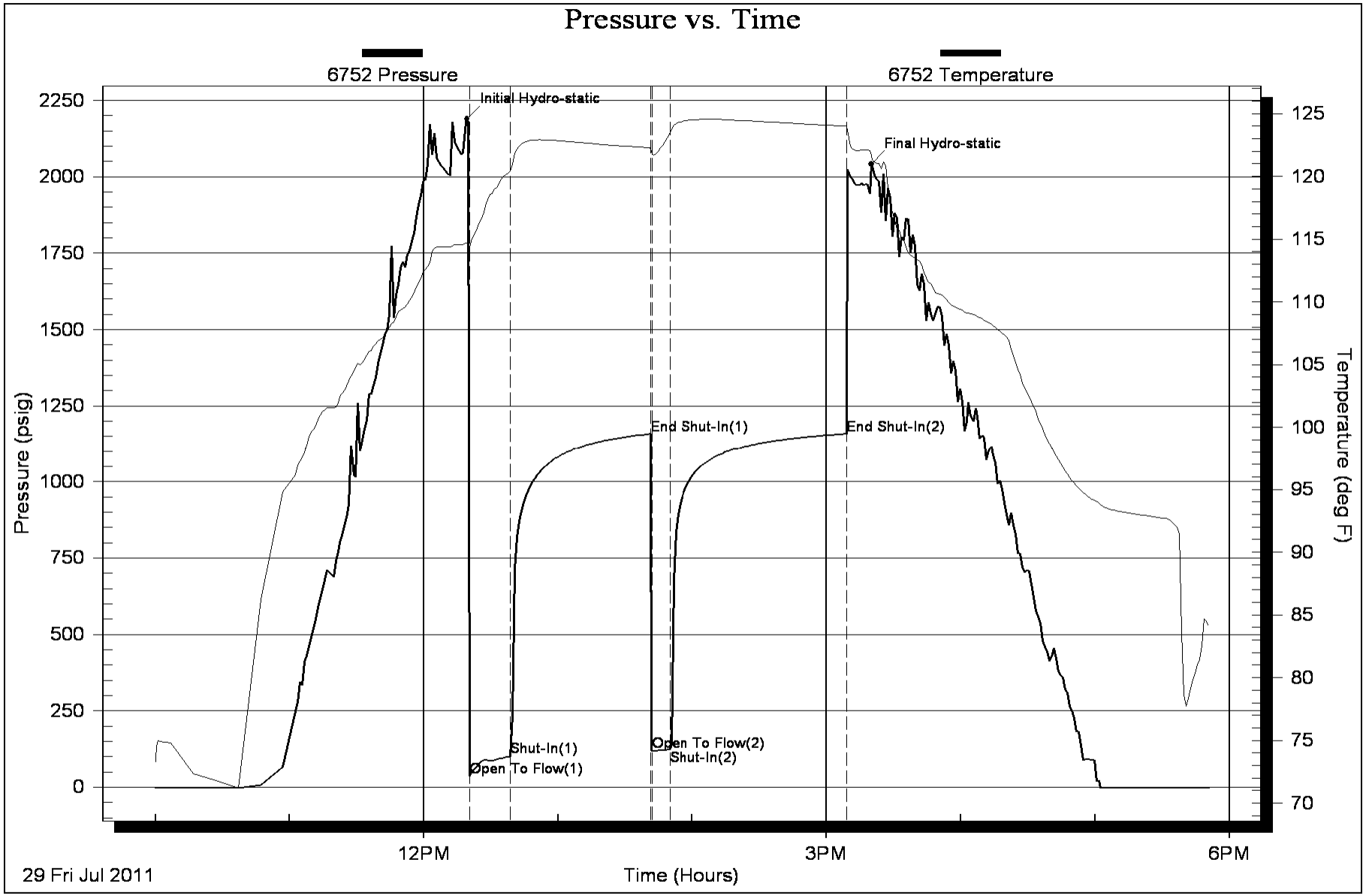
Length ft	Description	Volume bbl
187.00	ghocm-20%g40%o40%m	0.920
63.00	gmco-20%g10%m70%o	0.884
63.00	go-30%g70%o	0.884
0.00	189 ft. gas in pipe	0.000

Total Length: 313.00 ft Total Volume: 2.688 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
0
125
120
115
110
105
100
95
90
85
80
75
70
12PM
3PM
6PM
29 Fri Jul 2011
Time (Hours)

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43725 **DST#: 5**

Test Start: 2011.07.30 @ 15:00:00

GENERAL INFORMATION:

Formation: **Pawne**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:52:30
Time Test Ended: 04:42:00

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4532.00 ft (KB) To 4600.00 ft (KB) (TVD)
Total Depth: 4600.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

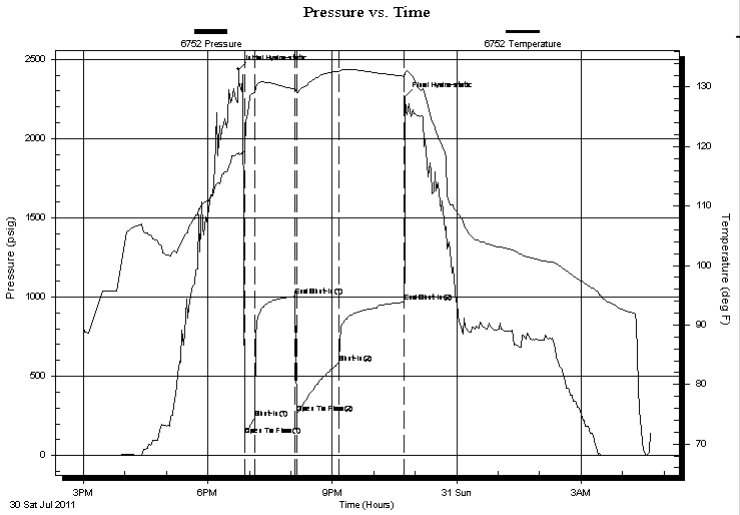
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 583.90 psig @ 4533.00 ft (KB)
Start Date: 2011.07.30 End Date: 2011.07.31
Start Time: 15:00:05 End Time: 04:42:00

Capacity: 8000.00 psig
Last Calib.: 2011.07.31
Time On Btm: 2011.07.30 @ 18:44:00
Time Off Btm: 2011.07.30 @ 22:45:00

TEST COMMENT: IF: Strong blow , Built to B.O.B in 1 1/2 mins.
ISI: Blow back, Built to B.O.B in 2 mins. GAS to surface in 10 mins.
FF: Strong blow , Built to B.O.B in 30 sec.
FSI: Blow back, Built to B.O.B in 2 mi



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2436.38	118.88	Initial Hydro-static
9	127.88	119.18	Open To Flow (1)
23	233.83	129.15	Shut-In(1)
82	1004.42	129.66	End Shut-In(1)
84	267.33	129.29	Open To Flow (2)
146	583.90	132.65	Shut-In(2)
240	966.91	131.82	End Shut-In(2)
241	2262.37	132.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
187.00	ocm-10%o90%m	0.92
1575.00	go-30%g70%o	22.09
0.00	2472 ft. gas in pipe	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 43725 **DST#: 5**

Test Start: 2011.07.30 @ 15:00:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	10900.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

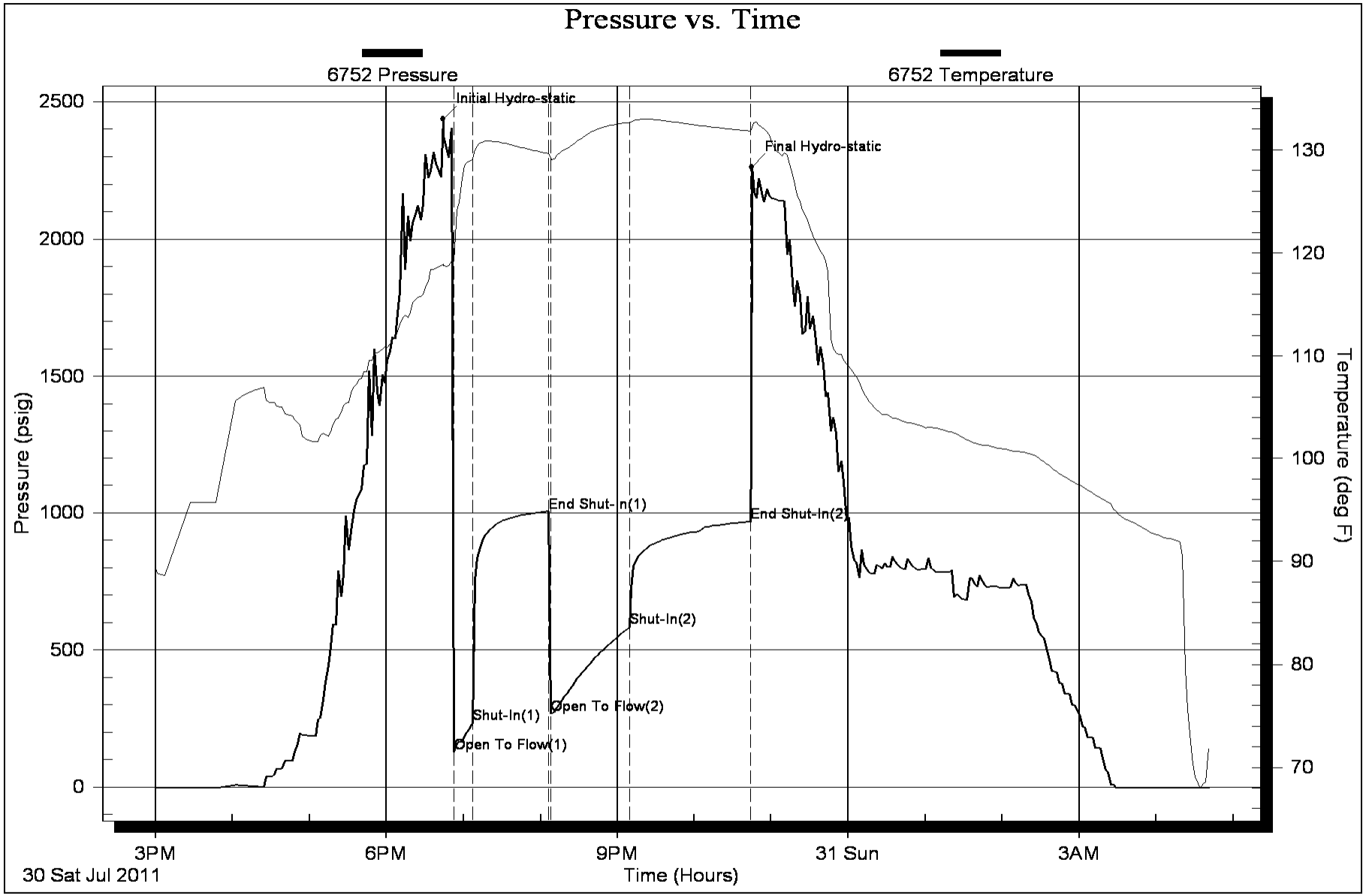
Length ft	Description	Volume bbl
187.00	ocm-10%o90%m	0.920
1575.00	go-30%g70%o	22.093
0.00	2472 ft. gas in pipe	0.000

Total Length: 1762.00 ft Total Volume: 23.013 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut- n(1)
End Shut-In(2)
Shut-In(2)
Open To Flow(2)
Shut-In(1)
Open To Flow(1)
Pressure (psig)
2500
2000
1500
1000
500
0
Temperature (deg F)
130
120
110
100
90
80
70
3PM
6PM
9PM
31 Sun
3AM
30 Sat Jul 2011
Time (Hours)

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 041926 **DST#: 6**

Test Start: 2011.07.31 @ 18:30:00

GENERAL INFORMATION:

Formation: **Johnsom**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:13:00
Time Test Ended: 03:50:30

Test Type: Conventional Bottom Hole
Tester: Chuck Kreutzer Jr.
Unit No: 36

Interval: 4644.00 ft (KB) To 4700.00 ft (KB) (TVD)
Total Depth: 4700.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

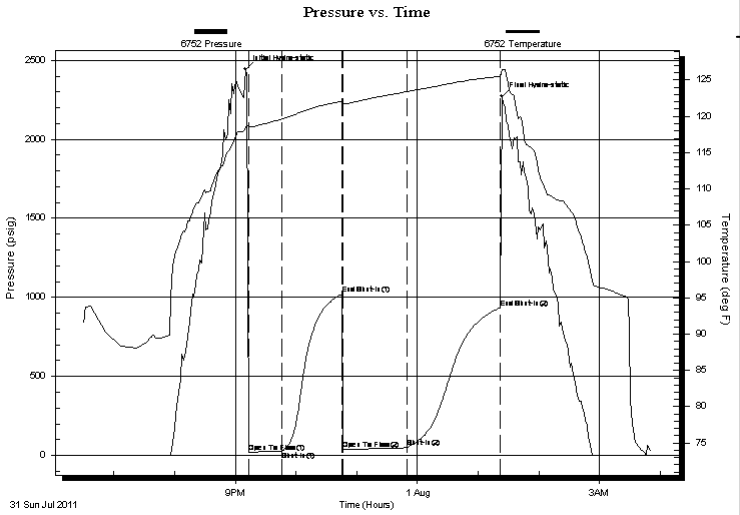
Reference Elevations: 3194.00 ft (KB)
3184.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: 49.70 psig @ 4645.00 ft (KB)
Start Date: 2011.07.31 End Date: 2011.08.01
Start Time: 18:30:05 End Time: 03:50:30

Capacity: 8000.00 psig
Last Calib.: 2011.08.01
Time On Btm: 2011.07.31 @ 21:10:00
Time Off Btm: 2011.08.01 @ 01:23:30

TEST COMMENT: IF: Weak blow , Surface over 30 mins.
ISI: No blow bacvk over 60 mins.
FF: Weak blow , Surface over 30 mins.
FSI: No blow back over 90 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2442.64	118.52	Initial Hydro-static
3	21.18	118.58	Open To Flow (1)
36	29.01	119.64	Shut-In(1)
96	1021.54	122.12	End Shut-In(1)
97	36.47	121.79	Open To Flow (2)
160	49.70	123.40	Shut-In(2)
252	934.45	125.54	End Shut-In(2)
254	2273.19	126.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	ocm-30%o70%m	0.31
20.00	mo-30%m70%o	0.10

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co.

250 N. Water Ste. 300
Wichita Ks. 67202

ATTN: Charlie Sturdavant

Epard #1-27

27 10s 34w Thomas Ks

Job Ticket: 041926 **DST#: 6**

Test Start: 2011.07.31 @ 18:30:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	10900.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

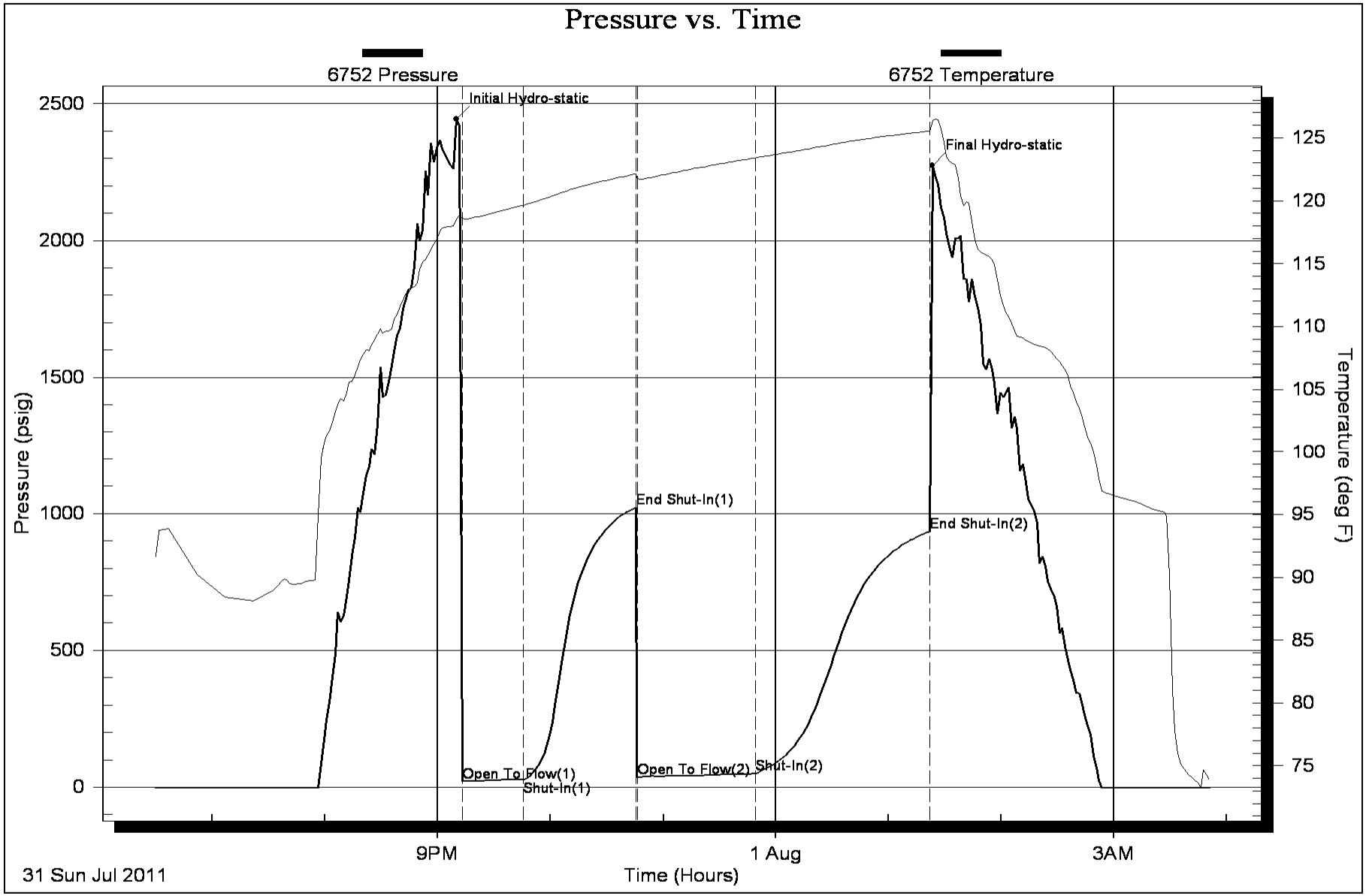
Length ft	Description	Volume bbl
63.00	ocm-30%o70%m	0.310
20.00	mo-30%m70%o	0.098

Total Length: 83.00 ft Total Volume: 0.408 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
6752 Pressure
6752 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
2500
2000
1500
1000
500
0
Temperature (deg F)
125
120
115
110
105
100
95
90
85
80
75
9PM
1 Aug
3AM
31 Sun Jul 2011
Time (Hours)

ALLIED
CEMENTING CO., LLC
Cementing & Acidizing Services

PO BOX 31 Russell, KS 67665

ucct.
Inj.

INVOICE

Invoice Number: 127994
Invoice Date: Jul 20, 2011
Page: 1

PROD COPY

Voice: (785) 483-3887
Fax: (785) 483-5566

Bill To:

Murfin Drilling Co.
P.O. Box 661
Colby, KS 67701

Federal Tax I.D.#: 20-5975804

operator
MPC

Customer ID	Well Name/# or Customer P.O.	Payment Terms	
Murfin	Epard #1-27	Net 30 Days	
Job Location	**Camp Location**	**Service Date**	**Due Date**
KS1-01	Oakley	Jul 20, 2011	8/19/11

Quantity	Item	Description	Unit Price	Amount
345.00	MAT	Class A Common	16.25	5,606.25
12.00	MAT	Chloride	58.20	698.40
357.00	SER	Handling	2.25	803.25
20.00	SER	Mileage	39.27	785.40
1.00	SER	Surface	1,125.00	1,125.00
40.00	SER	Heavy Vehicle Mileage	7.00	280.00
1.00	SER	Manifold Head Rental	200.00	200.00
40.00	SER	Light Vehicle Mileage	4.00	160.00
1.00	CEMENTER	Andrew Forslund		
1.00	OPER ASSIST	Jerry Yates		
1.00	OPER ASSIST	Earl Rebarchek		

ID203
3. 2152.000
10118.54 Cement S. (Sg.) # 1-27
(3380.41)
OK

ALL PRICES ARE NET, PAYABLE 30 DAYS FOLLOWING DATE OF INVOICE. 1 1/2% CHARGED THEREAFTER. IF ACCOUNT IS CURRENT, TAKE DISCOUNT OF

$ 3380.41

ONLY IF PAID ON OR BEFORE

Aug 14, 2011

Subtotal	9,658.30
Sales Tax	460.24
Total Invoice Amount	10,118.54
Payment/Credit Applied	
TOTAL	**10,118.54**

$3380.41
$6738.13

ALLIED CEMENTING CO., LLC. 043453

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Oakley

DATE 7-20-11	SEC. 27	TWP. 10	RANGE 34	CALLED OUT	ON LOCATION	JOB START 11:30 Am	JOB FINISH 12:00 Pm
LEASE Eparo	WELL # 1-27		LOCATION monument 2W 5N 2W 1/2 S W into			COUNTY Thomas	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 2
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 267'
CASING SIZE 8⅝ DEPTH 267'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 16.05 BBL

OWNER Same

CEMENT

AMOUNT ORDERED 345 sks 3% cc

COMMON 345 sks	@	16.25	5606.25
POZMIX	@		
GEL	@		
CHLORIDE 12 sks	@	58.20	698.40
ASC	@		
HANDLING 367 sks	@	2.25	803.25
MILEAGE 11¢ sk/mile			785.40

TOTAL 7893.30

EQUIPMENT

PUMP TRUCK CEMENTER Andrew
423-281 HELPER Jerry
BULK TRUCK
347 DRIVER Earl
BULK TRUCK
DRIVER

REMARKS:

mix 195 sks cement thru 8⅝, Displace cement Did not circulate, Run 1" in Tag @ 85' mix 75 sks com 3% cc wait Run 1" in Tag cement 65' circulate cement to surface with 75 sks.

thank you

SERVICE

DEPTH OF JOB 267'

PUMP TRUCK CHARGE			1125.00
EXTRA FOOTAGE	@		
MILEAGE 20 miles x 2	@	2.00	280.00
MANIFOLD head	@		200.00
Light vehicle	@	4.00	160.00

TOTAL 1765.00

CHARGE TO: Murfin
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

TOTAL

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

PRINTED NAME

SIGNATURE

Liz

SWIFT Services, Inc.

P. O. Box 466
Ness City, KS 67560
Off: 785-798-2300

Invoice

DATE	INVOICE #
8/12/2011	19745

BILL TO

Murfin Drilling Co Inc
PO Box 661
Colby, KS 67701-0661

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-27	Epard	Thomas	Company Tools	Oil	Development	Port Collar	Nick

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	100	Miles	6.00	600.00
576D-D	Pump Charge - Port Collar - 2729 Feet	1	Job	1,250.00	1,250.00
279	Bentonite Gel	4	Sack(s)	25.00	100.00T
290	D-Air	4	Gallon(s)	35.00	140.00T
330	Swift Multi-Density Standard (MIDCON II)	350	Sacks	16.50	5,775.00T
276	Flocele	100	Lb(s)	2.00	200.00T
581D	Service Charge Cement	400	Sacks	2.00	800.00
583D	Drayage	1,711	Ton Miles	1.00	1,711.00
	Subtotal				10,576.00
	Sales Tax Thomas County			7.30%	453.70

USED FOR 1C 103

APPROVED JJ

We Appreciate Your Business!

Total $11,029.70

SWIFT Services, Inc.

CHARGE TO: Murfin Drlg Co Inc.
ADDRESS
CITY, STATE, ZIP CODE

TICKET 19745

PAGE 1 OF 1

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. Hays, Ks.	#1-27	Epard	Thomas	Ks		8-12-11	same
2. Ness City Ks	TICKET TYPE ☑ SERVICE ☐ SALES	CONTRACTOR Co Tools	RIG NAME/NO.	SHIPPED VIA CH	DELIVERED TO Location	ORDER NO.	
3.	WELL TYPE oil	WELL CATEGORY Development	JOB PURPOSE Port Collar		WELL PERMIT NO.	WELL LOCATION	
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575		1			MILEAGE #111	100	mi			6.00	600.00
576D		1			Pump Charge (Port Collar)	1	ea	2729'		1250.00	1250.00
279		1			Bentonite gel	4	sks			25.00	100.00
290		1			D-Air	4	gal			35.00	140.00
330		2			SMD Cement	350	sks			16.50	5775.00
276		2			Flocele	100	#			2.00	200.00
581		2			Cement Service Charge	400	sks			2.00	800.00
583		2			Drayage	1711	TM			1.00	1711.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X Mark Rolleau

DATE SIGNED 8-12-11 TIME SIGNED 1330 ☐ A.M. ☑ P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	10576.00
Thomas TAX 7.3%	453.70
TOTAL	11,029.70

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR Mick Hooke

APPROVAL

Thank You!

JOB LOG **SWIFT Services, Inc.** DATE 8-12-11 PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Martin Drlg Co Inc	#1-27	Epard	Port Collar	19745

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1150							on loc set up Trks
								2 7/8" x 5 1/2"
								P.C. 2729'
	1200						1000	Test Csg to 1000 psi
								Open P.C.
	1205	3.5	4			400		Take injection rate & check for blow
	1210	3.5	0			400		Start Gel
	1214	4.5	12/0			400		Start Cement
	1250		184			400		Circulate Cement / raise weight
	1251		190/0			400		End Cement / Start Displacement
	1255		15			500		Cement Displaced
								Close P.C.
	1300						1000	Test Csg
								run 5 jts
	1310	3	0					Reverse out
	1318		25					Hole Clean
								350 sks SMD
								circulate 35 sks to pit
								Thank you
								Nick Josh F & Joe

Acctg — cc: WP Ron, Lee

SWIFT Services, Inc.

P. O. Box 466
Ness City, KS 67560
Off: 785-798-2300

Invoice

DATE	INVOICE #
8/2/2011	20244

BILL TO

Murfin Drilling Co Inc
P. O. Box 130
Hill City, KS 67642-0130

USED FOR 1C 103
APPROVED

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#1-27	Epard	Thomas	Murfin Drilling	Oil	Development	LongString	Dave

PRICE REF.	DESCRIPTION	QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way	100	Miles	6.00	600.00
578D-L	Pump Charge - Long String	1	Job	1,500.00	1,500.00
221	Liquid KCL (Clayfix)	4	Gallon(s)	25.00	100.00T
280	Flocheck 21	500	Gallon(s)	2.50	1,250.00T
290	D-Air	2	Gallon(s)	35.00	70.00T
403-5	5 1/2" Cement Basket	2	Each	250.00	500.00T
404-5	5 1/2" Port Collar	1	Each	2,400.00	2,400.00T
406-5	5 1/2" Latch Down Plug & Baffle	1	Each	250.00	250.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill	1	Each	350.00	350.00T
409-5	5 1/2" Turbolizer	15	Each	90.00	1,350.00T
413-5	5 1/2" Roto Wall Scratcher	25	Each	40.00	1,000.00T
419-5	5 1/2" Rotating Head Rental	1	Each	200.00	200.00T
325	Standard Cement	225	Sacks	13.50	3,037.50T
276	Flocele	50	Lb(s)	2.00	100.00T
283	Salt	1,125	Lb(s)	0.20	225.00T
284	Calseal	11	Sack(s)	35.00	385.00T
285	CFR-1	150	Lb(s)	4.00	600.00T
581D	Service Charge Cement	225	Sacks	2.00	450.00
583D	Drayage	1,178.75	Ton Miles	1.00	1,178.75
	Subtotal				15,546.25
	Sales Tax Thomas County			7.30%	862.68

We Appreciate Your Business!

Total $16,408.93

SWIFT Services, Inc.

CHARGE TO: MURFIN DRLG
ADDRESS
CITY, STATE, ZIP CODE

TICKET 20244

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. HAYS	1-27	EPARD	THOMAS	KS		08-02-11	
2. NESS	TICKET TYPE ☒ SERVICE ☐ SALES	CONTRACTOR	RIG NAME/NO. MURFIN DRLG #2	SHIPPED VIA C.T.	DELIVERED TO S.W. COLBY	ORDER NO.	
3.	WELL TYPE OIL	WELL CATEGORY DEVELOP	JOB PURPOSE LONGSTRING		WELL PERMIT NO.	WELL LOCATION S27 T10 R34	
4.							
REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575		1			MILEAGE #112	100	MI			6.00	600.00
578		1			PUMP SERVICE	1	EA			1500.00	1500.00
221		1			LIQUID KCL	4	GAL			25.00	100.00
280		1			FLOCHECK 21	500	GAL			2.50	1250.00
290		1			D-AIR	2	GAL			35.00	70.00
403		1			BASKET	2	EA	5½	IN	250.00	500.00
404		1			PORT COLLAR	1	EA			2400.00	2400.00
406		1			LATCH DOWN PLUG & BAFFLE	1	EA			250.00	250.00
407		1			INSERT FLOATSHOE W/AUTOFILL	1	EA			350.00	350.00
409		1			TURBOLIZER	15	EA			90.00	1350.00
413		1			ROTO WALL SCRATCHERS	25	EA	125	FT	40.00	1000.00
419		1			ROTATING HEAD	1	EA			200.00	200.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X Wade King

DATE SIGNED 08-02-11 TIME SIGNED 0900 ☒ A.M. ☐ P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL Pg-1	9570.00
Pg-2	5976.25
SUB TOTAL	15,546.25
Thomas TAX 7.3%	862.68
TOTAL	16,408.93

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR Dave Ash

APPROVAL

Thank You!

SWIFT Services, Inc.

PO Box 466.
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 20244

CUSTOMER: MURFIN DRLG | WELL: EPARD 1-27 | DATE: 08-02-11 | PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	TIME	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
325		2				STD EA2	225	SK			13 50	3037 50
276		2				FLOCELE	50	LB			2 00	100 00
283		2				SALT	1125	LB			20	225 00
284		2				CALSEAL	11	SK			35 00	385 00
285		2				CFR-1	150	LB			4 00	600 00
581		2				SERVICE CHG CMT	225	SK			2 00	450 00
583		2				DRAYAGE	1178.75	TM			1 00	1178 75

SERVICE CHARGE | CUBIC FEET

MILEAGE CHARGE | TOTAL WEIGHT | LOADED MILES | TON MILES

CONTINUATION TOTAL 5976.25

JOB LOG

SWIFT Services, Inc.

DATE 08-02-11 | PAGE NO.

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
MURFIN DRLG	1-27	EPARD	LONGSTRING	20244

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (~~GAL~~)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0900							ON LOCATION
								CMT: 225 STD EA-2
								RTD 4850 SET PIPE 4847 SJ 2252 INSERT 4823
								5½ 15.5 #/M PORT COLLAR ON TOP #50 2739 FT
								TURBOLIZER 1-14, 49 BASKET 49.50
								ROTOWALL SCRATCHERS 125 FT JOINTS 4.5, 7, 8, 12, 13, 14, 15
	1115							START CSG & FLOATERY 60 JOINTS IN CIRC 30 MINS
	1415							TAG BOTTOM, DROP BALL
	1420							BREAK CIRC & ROTATE PIPE
	1525		7.5					PLUG RH 30, MHLS
	1530	5.5	15		✓		200	KCL FLUSH
			12		-			FLOCHECK 21 500 GAGS
			5		-			KCL FLUSH
			44		-			EA-2 CMT 180 SKS
								DROP LD PLUG, WASHOUT PL
	1545	7.5	0		-		200	START DISP w/ 2% KCL 20 BBLS
			20		-		200	
			105.0		-		600	
			110.0		-		700	
	1600		114.8		-		1400	LAND PLUG
								RELEASE DRY
	1645							THANK YOU!
								DAVE, JOSH B, ROB